

AMENDMENTS TO THE CLAIMS

Please cancel claims 21, 33, and 35-39 without prejudice or disclaimer of their underlying subject matter.

Please amend the claims as follows.

1-19. (Canceled)

20. (Previously presented) A method for producing a radiation detector provided in a substrate with a detection layer which is sensitive to radiation, comprising the steps of:

forming said detection layer by a polycrystal film comprising either one of CdTe (cadmium telluride), ZnTe (zinc telluride) and CdZnTe (cadmium zinc telluride) or a laminate film of polycrystal including at least one thereof, and

doping said detection layer with Cl,

wherein said detection layer is formed by vapor deposition or sublimation while using as a source, a mixture of a first material including at least one of CdTe (cadmium telluride), ZnTe (zinc telluride) and CdZnTe (cadmium zinc telluride) and a second material including at least one of CdCl₂ (cadmium chloride) or ZnCl₂ (zinc chloride).

21. (Canceled)

22. (Currently amended) A radiation imaging apparatus comprising:

the radiation detector formed by the method according to claim 20; 21;

a plurality of charge accumulation capacitors for accumulating charges from said detection layer; and

a switching matrix substrate including switching devices arranged in array, wherein the switching devices read out charges of said plurality of charge accumulation capacitors.

23. (Previously presented) A method for producing a radiation detector comprising:

placing a supporting substrate and a source into a deposition chamber, said source being a mixture of a first material and a second material, said first material including at least one of CdTe (cadmium telluride), ZnTe (zinc telluride) and CdZnTe (cadmium zinc telluride, said second material including at least one of CdCl₂ (cadmium chloride) or ZnCl₂ (zinc chloride);

reducing pressure within said deposition chamber;

heating said source, said source sublimating and adhering to said supporting substrate to form a detection layer.

24. (Previously presented) The method according to claim 23, further comprising:

replacing said source with another source, said another source being a mixture of a third material and a fourth material, said third material including at least one of CdTe (cadmium telluride), ZnTe (zinc telluride) and CdZnTe (cadmium zinc telluride, said fourth material including at least one of CdCl₂ (cadmium chloride) or ZnCl₂ (zinc chloride);

heating said another source to form a second layer, said second layer forming on said detection layer.

25. (Currently amended) The method according to claim 23, further comprising:

wherein:

forming a common electrode ~~is~~ between said supporting substrate and a hole injection preventing layer, ~~and~~

wherein said detection layer is between said hole injection preventing layer and said common electrode.

26. (Previously presented) The method according to claim 25, wherein said hole injection preventing layer is from the group consisting of a CdS film and a ZnS film.

27. (Previously presented) The method according to claim 25, wherein an electron injection preventing layer is between said detection layer and a detection electrode.

28. (Previously presented) The method according to claim 27, wherein said electron injection preventing layer is from the group consisting of an Sb₂Te₃ film, an Sb₂S₃ film, and a ZnTe film.

29. (Currently amended) The method according to claim 23, further comprising:

wherein:

forming a common electrode ~~is~~ between said supporting substrate and an electron injection preventing layer, ~~and~~

| wherein said detection layer is between said electron injection preventing layer and said common electrode.

30. (Previously presented) The method according to claim 29, wherein said electron injection preventing layer is from the group consisting of an Sb_2Te_3 film, an Sb_2S_3 film, and a ZnTe film.

31. (Previously presented) The method according to claim 29, wherein a hole injection preventing layer is between said detection layer and a detection electrode.

32. (Previously presented) The method according to claim 31, wherein said hole injection preventing layer is from the group consisting of a CdS film and a ZnS film.

33. (Canceled)

34. (Currently amended) A radiation imaging apparatus comprising:

| the radiation detector formed by the method according to claim 23;

| a plurality of charge accumulation capacitors for accumulating charges from said detection layer; and

| a switching matrix substrate including switching devices arranged in array, wherein the switching devices read out charges of said plurality of charge accumulation capacitors.

35-39. (Canceled)